

Application No. 10/743,390
Amendment dated June 6, 2006
Reply to Office Action of January 6, 2006

Docket No.: 21581-00311-US

REMARKS

Claims 1 and 6 are now presented in the application and are drawn to the elected species.. Claims 4, 5, 11, 14, and 15, which were drawn to non-elected species, have been cancelled without prejudice or disclaimer. Claim 1 has been amended by deleting the term "to be treated" for purposes of clarification and not to limit its scope. Claim 1 has also been amended by replacing the term "at least one member selected from the group consisting of magnesium, calcium, zinc, a silicon-containing compound and copper" with the term "an amino group-containing-silane coupling agent". The phrase "an amino group-containing-silane coupling agent" finds support in the specification at page 11, lines 1-12. Claim 1 has also been amended by deleting the term "a water-borne resin, and at least one member selected from the group consisting of a mixture of a polyisocyanate compound and a melamine resin and mixtures thereof (ii)" to address the Examiner's rejection under 35 USC 112, first and second paragraphs concerning this phrase. Claim 6 has been amended by deleting the term "in terms of total atoms of zirconium, titanium and hafnium" for purposes of clarification and not to limit its scope.

The amendments to the claims do not introduce any new matter. The amendments to the claims reduce the issues for appeal.

The rejections of claims 1 and 6 under 35 USC 112, first and second paragraphs have been overcome by the above amendments to the claims and/or are not deemed tenable. In particular, claim 1 has been amended by deleting the terms "to be treated" and "mixture of a polyisocyanate compound and a melamine resin and mixtures thereof".

Concerning the intended meaning of the term "atom ratio basis", the Examiner's attention is kindly directed to page 8, lines 30-31 of the specification which clarifies that such refers to a dried coating. Also, in the examples, for example, at page 20, lines 16-22, the following description can be found:

"Drying: The cold-rolled steel sheet after being rinsed was dried at 80°C for 5 minutes in an electrical dryer. It is noted that the total amount of metals contained in the chemical conversion coating agent (coat amount) and the fluorine concentration, which are contained in the resulting coat, were analyzed by using "AXIS-HS" ---".

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Accordingly, the concentration is defined in the dried coat, that does not contain solvent, and therefore the statement in our prior response was not appropriate.

With respect to the term "ppm" in claim 6, claim 6 has been amended by deleting the phrase "in terms of total atoms of zirconium, titanium and hafnium."

The term "ppm" means that the chemical conversion coating agent initially contains a component, which is at least one selected from the group consisting of zirconium, titanium and hafnium, in the concentration of 20 to 10000 ppm. Only the zirconium, titanium and hafnium atoms are counted in calculating ppm.

Claims 1 and 6 were rejected under 35 USC 102(b) as being anticipated by US patent 6,312,812 to Hauser et al. (hereinafter also referred to as the '812 Patent). The '812 Patent fails to anticipate claims 1 and 6.

In particular, the '812 patent does not disclose or even remotely suggest the amino-group containing silane coupling agent as recited in amended Claim 1. Further, the '812 patent discloses a mixture of water-borne resin, poly isocyanate and melamine (col. 5, 1, 48-col. 6, 1.7), but fails to disclose the resins as recited in amended Claim 1. Therefore, the present invention is not identical to the suggestions in the '812 patent and is novel thereover.

In addition, an important purpose of this present invention is the exclusion of phosphate ions. As described in the description, there are many problems of the pretreatment method using phosphate compounds (i.e. economical problem and harm to the environment due to eutrophication (see p. 1, 1.23 – p.2, 1.3 of the specification). In the present invention, one of the major objects is excluding these problems by using a composition that is substantially free of phosphate ions.

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On the other hand, the '812 patent describes the phosphorous-containing materials as one of choices as additive to the composition (see claim 1 thereof). Further, there is no disclosure of the purpose of the present invention, e.g. deletion of phosphate emission. Therefore, the object of the present invention is not described and the present invention is not rendered obvious by the '812 patent.

Claim 6 was rejected under 35 USC 103(a) as being unpatentable over US patent 5,427,632 to Dolan et al. (hereinafter also referred to as the '632 patent). The '632 patent does not render obvious claim 6. In particular, the '632 patent does not disclose or even remotely suggest the amino-group containing silane coupling agent recited in the claims.

Moreover, an important purpose of the present invention is the exclusion of phosphate ions.

As described in the description, there are many problems of the pretreatment method using phosphate compounds (i.e. economical problem and harm to the environment due to eutrophication (see p. 1, 1.23 – p.2, 1.3) of the specification). In the present invention, one of the major objects is excluding these problems by using a composition that is substantially free of phosphate ions.

There is no disclosure of deleting phosphate emissions in the '623 patent. Therefore, the objection of the present invention is not addressed in the '623 patent.

As pointed out by the '623 disclosures phosphates and phosphonates. However, these compounds are known to cause the problems of phosphate compounds (i.e. economical problem and harm to the environment). Therefore, the object of the present invention is not described in the '623 patent.

This object of the present invention differs significantly from the '623 patent. Accordingly, the present invention is not rendered obvious by the '623 patent.

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In view of the above amendment, applicant believes the pending application is in condition for allowance.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 22-0185, under Order No. 21581-00311-US from which the undersigned is authorized to draw.

Dated: 6/6/06

Respectfully submitted,

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